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Curriculum Design in Special Education: Factors and Influences

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Curriculum Design in Special Education:

Factors and Influences

By

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I would like to thank my husband for his unwavering support….even after he had grown weary of the subject matter. Many thanks to my three children who understood the importance of my goal. I promise real dinners from now on.

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Chapter One

Introduction

Every day special education teachers are asked to facilitate access to the general education curriculum. They are also charged with creating specialized instruction to meet the needs of individual learners. As a result, teachers must modify the general education curriculum and provide curricular enhancements in order for students to participate. This naturally leads to the question: What factors and influences are impacting curriculum design practices when K-8 special education teachers are working with students in an inclusive setting and within their own special education classrooms?

Although educators are asked to design programs that meet the needs of diverse learners, they are often ill-equipped, having minimal training in curriculum development and little knowledge of the general education curriculum (Holheide & Reschly, 2008). The Individuals with Disabilities Act 2004 (IDEA), requires that students within the special education umbrella have access to and progress in the general education curriculum within the least restrictive environment (LRE). This charge creates a likely problem for special educators: how to meet IDEA's requirements of access and LRE while providing *specialized* instruction that is rigorous and scientifically based? In order for students to have access, teachers are asked to make curricular adjustments which may differ due to teacher philosophy, judgment or experience. Often teachers need to go beyond straight forward modification and provide other instructional materials in order to support learning.

It is important to examine the influences and practices within curriculum design because in an effort to best serve this population of students, teachers often draw from many resources for materials and use a plethora of standalone instructional strategies. Therefore, special education programs of study run the risk of being haphazard and disjointed rather than sequential with learning outcomes as a primary focus. Step into any suburban elementary school's special education classroom and one will usually find cabinets and shelves jammed with resources designed to aid teachers in their instruction. These resources are often gathered over the years from seminars, retail stores, on-line education sites, and/or other teachers.

Purpose

The purpose of this study was to depart from theory and focus on the realities of day to day decisions special education teachers are asked to make. The chief purpose of this study was to gain insight into the factors that influence curriculum design such as high stakes testing, teacher experience, knowledge of content, teacher training, collaboration and materials. In order to do so, the researcher designed an on-line survey that focused on curriculum design.

Additional information and insights were gleaned from the study. For example, were teachers using Common Core Standards (CCS) as a measuring stick when designing curriculum and choosing materials? Were teachers employing best practices when designing curriculum? Were teachers balancing priorities, such as IEP goals, high stakes tests and class pace? Were students given the opportunity to gain access to and progress in the general education curriculum?

It is important to examine authentic day to day instructional decisions and activities in order to understand gaps between best practice research and legislative demands and actual

classroom practices. It was the hope of the researcher that this study would determine whether there was a need for more instructional materials and/or further professional development for the special education staff members taking part in the study.

Scope and Limitations

This was a small study with a sample of 45 special education teachers in two school districts in suburban Boston. The first district, (later referred to as the Elementary School) consisted of six elementary schools, grades preK-6, all of which were invited to participate in the study. The second district (later referred to as the Middle School), included the middle school, grades 7-8, which participated in the study, and the high school, grades 9-12, which did not. Although the districts were in the same community, they did not share a school board or administration.

The homogeneous nature of the districts created limitations within the study. The student body was 95% Caucasian and the population of teachers was of a similar make up. Economic status was also a limiting factor, in that both districts were comprised of upper middle class households where only 2% of the students receive free lunch. As a result, caution should be exercised in applying the study results which do not represent schools with heterogeneous populations (e.g., urban schools) or which are economically challenged (e.g., urban and rural schools).

The teachers within both districts are highly educated and experienced (see table 1). This high level of professional education and experience limits the study's applicability to schools with less educated and experienced teaching staff.

Lastly, this study was designed to examine practices and influences in curriculum design and modification and did not seek to address efficacy.

Definitions

For the purposes of this study it is necessary to clarify the following terms because there is some debate as to their meaning within the special education community.

Curriculum: the districts' agreed upon program of study, described as "comprehensive and sequential" (Sands, Adams, & Stout, 1995, p.) and includes instructional activities and materials with clear learning objectives (Udvari-Solner, Villa, & Thousand, 2005).

Curriculum enhancement: materials and/or instructional strategies that augment the existing general education curriculum (Koga & Hall, 2004).

Curriculum design: the practice of creating and planning instructional programming which includes learning objectives, instructional materials, and activities.

Curriculum modification: a very broad view without defining specific types of modification and is as follows: adjustments to the general education curriculum in its contents, delivery, and/or outcomes. (Koga & Hall, 2004).

Summary

Teachers are required to balance many factors when designing a program of study for their students. They must ensure high levels of access to the general education curriculum while providing specialized instruction. Since these mandates are in place, it stands to reasons that practical day to day decision making should be examined. There is much attention given to educational theories, best practices and instructional strategies. However, there is very little

research about genuine classroom practices. Through the use of the survey, this study sought to gain insight into the practices and influencers in curriculum design as it pertains to K-8 special education teachers working in inclusive as well as “pull-out” environments.

Chapter 2

Upon conducting a literature review, the researcher found limited research that focused on actual practices in curriculum design of special education teachers. The surveys and other studies that are available are more than 10 years old. Most research studying curriculum focused on specific instructional strategies and appropriate modifications.

The related literature that influenced this study is divided into the following categories: 1) access to the general education curriculum; 2) teacher preparation and collaboration; and 3) results of other surveys.

Access to the General Education Curriculum

In order to discuss curriculum design, it is important to define curriculum. Hitchcock, Meyer, Rose, and Jackson (2002) define curriculum as including scope and sequence, media and materials, instructional methods, and assessments. However, other definitions include the total educational experience (Abell, Bauder, & Simmons, 2005) and a tailored program to meet student needs (Hitchcock et al., 2002). In a 1995 study, Sands, Adams, and Stout found that teachers often felt the IEP was the primary driver of curriculum and that students with disabilities were exempt from the general education curriculum.

Karger and Hitchcock (2003) summarized the implication of IDEA 1997 and the 2004 amendments. They explained that students with disabilities are to have accesses to, participate in, and progress in the general education curriculum, the same curriculum that is offered to students without disabilities. Furthermore, students are to meet the same educational standards and participate in state and district assessments.

The National Center on Accessible Instructional Materials (2002) published a brief in which the authors, Hitchcock, Meyer, Rose and Jackson, discussed the history of participation and progress in general education by special education students. In summary, the brief reported that students with disabilities had been slowly gaining access to the same curriculum as their non-disabled peers through a series of legislative acts. In 1975 the Education for All Handicapped Children Act (PL-94-142) "entitled students with disabilities to an individually designed, free and appropriate public education in the least restrictive environment" (Hitchcock, et al., 2002, ¶ 9). Hitchcock, et al. go on to say that while alternative curricula were intended to meet the unique needs of learners these curricula proved an "insufficient foundation for success" (¶ 11) and that students with disabilities were not expected to meet high expectations. Currently, under IDEA students are to participate and progress in the general curriculum. However, Hthe authors argue that authentic participation and progress are not occurring. They believe this is not due to a lack of effort by teachers or administrators; it is because curriculum is highly inflexible.

Grace Meo (2008) agrees that most general education curricula does not provide the flexibility needed for all learners. She believes that the principles of Universal Design for Learning (UDL) are the solution for diverse learners. However, until all curricula meet UDL precepts teachers will be required to retro-fit their given curriculum. Therefore, special educators must find or create materials to enhance instruction and make appropriate modifications to ensure access and participation.

King-Sears (2001) states that even if the general education curriculum is not well designed for students with disabilities, it should be modified to allow accessibility. Furthermore, teachers who do not use the general curriculum run the risk of doing their students a "disservice

by placing them in other curricula that may not be sufficiently challenging" (p.70) and teachers may, in fact, have hindered the students' success in the general education curriculum.

In an effort to improve achievement for all students, No Child Left Behind (NCLB 2001) required that all students are to be academically proficient by the 2013-2014 school year and were to be measured by state tests. Meanwhile, schools were to make adequate yearly progress (AYP) toward that goal. In order for schools to meet their expected AYP it was necessary for all students with disabilities to have maximum access to the general education curriculum (Michael, Yssel, Bauserman, & Merbler, 2010).

The Council of Exceptional Children believes that the newly adopted Common Core Standards (CCS) will facilitate greater access for all students. The organization believes the standards are written in such a manner that they are wide reaching but also clear. The CCS require that teachers have a mastery of pedagogy as well as content knowledge. Moreover, teachers must rigorously monitor progress in order to alter instruction to fit the learner's needs (Brownell, n.d.).

Content Knowledge and Preparation

Unfortunately, past research has pointed out that special education teachers have been notoriously weak in content knowledge but have a strong knowledge of instructional strategies (Brownell ,Sindelar, Kiely, & Danielson, 2010). Another study also showed that special education teachers had a great deal of expertise in remedial instruction, but needed to grow in their depth of knowledge of the general curriculum (Abell et al, 2005). The authors believed that access to general curriculum was inequitable if the special education teacher focused solely on remediation. Inevitably, the general education curriculum would be lost because of the efforts

placed on addressing deficiencies. In order to provide access fairly and authentically, the authors suggest that general and special educators must collaborate so that special education teachers can strengthen their knowledge base and general educators can be equipped with appropriate strategies.

No Child Left Behind required that teachers meet qualifications that deem them to be "Highly Qualified." (NCLB 2001) In order to meet this demand, the Massachusetts Department of Education required that teacher candidates pass the Massachusetts Tests for Educator Licensure (MTEL) which includes tests of general content knowledge (Chester, 2011). These tests are the only measure of content knowledge for special education teachers in Massachusetts. Special education teachers are not required to have content based background in their educational experience.

Previous Survey

Surprisingly, a search for research concerning curriculum design practices within special education yielded little results. The most germane study took place in 1995 and was a statewide study of special education teachers. Certainly, teachers' views evolve and practices change as evidences of best practices surface. However, it is important to take a look at the results. A study conducted by Sands, Adams and Scott included 341 teachers in rural, urban and suburban Colorado. They found that teachers benefitted most from on-the-job training even though 41% had taken professional development classes that specifically addressed special education design. This study also revealed that 55% of the teachers believed that all students should have their own curriculum and that it be based primarily on teacher judgment and the IEP. Only 15% indicated that they used the general education curriculum as the primary resource for programming. They

tended to use their own judgment, often day-by-day, which meant they were not subscribing to a curriculum scope and sequence.

The literature review established that students in special education are required by law to have access to and participate in the general education curriculum and that past practices limited such access. The literature supported that students benefit from this access and should be given the appropriate supports to facilitate participation and progress. Looking at current teacher practices and influences in curriculum design give evidence to such participation.

Chapter 3

Methodology

Design

In order to gain information about curriculum practices and influences, the researcher designed a survey which was administered through surveymonkey.com for ease of distribution. The survey included 22 questions: five teacher profile questions, eight multiple choice questions, two open-ended questions requiring a short written response (omission was permitted), and a Likert scale which included a total of 42 elements requiring various rankings. Rankings included: most useful to least useful, always to never, excellent to below average, very influential to not influential, strongly agree to strongly disagree. Rankings were given a value of 4= most and 1= least. A copy of the survey can be found in Appendix A.

Questions were written to gain information about teachers' educational back ground, teaching experience, training and practices in curriculum development, instructional settings, collaboration, and use of instructional materials.

Several resources were used in the design of the questions. The previously mentioned 1995 Colorado study influenced the structure and the nature of the questions. Notes created and distributed by Dianne Kelley in a 2008 class on Curriculum Design (SED 569) at Cardinal Stritch University in Milwaukee Wisconsin that reflect best-practices in curriculum design and modification influenced many of the Likert scale items. The report from the Access Center, Considerations When Selecting a Reading Program (n.d.), was helpful in designing best practices questions with regard to program elements.

Participants

The survey was sent to 7 special education middle school teachers and 38 special education elementary school, teachers for a total of 45. The participants were K-8 teachers who worked with high or low incidence disabilities or both.

Procedures

Once permission was granted by the administration of the school districts involved, the researcher designed a preliminary survey through the website surveymonkey.com. An elementary school leadership team, including the Superintendent, Special Education Director and Curriculum Director, met to review the elements of the survey; all approved with no significant changes to the original questions. The survey draft was also approved by the middle school principal. Both school districts requested access to the results, which they believed would yield valuable information about the practices and needs of their special education teachers.

The elementary school Special Education Director sent an email in the spring of 2012 to all 38 special education teachers in the district requesting participation in the survey. Included in this email was an informed consent request, an affiliation agreement, a brief explanation of the study, and a direct link to the survey. She followed up with a reminder a week later that again included the link. Teachers were asked to complete the survey within two weeks.

The middle school followed a similar approach. In the spring of 2012 teachers were provided with the survey link, affiliation agreement, informed consent request, and an explanation through the school's email system. However, the request was sent through the assistant to the principal stating the survey was approved by the principal. An email was sent

from the assistant to the principal as a reminder a week later. The teachers were asked to respond with two weeks.

Materials

The only material required for this study was the survey which was accessed through a direct link that was distributed through the schools' email systems.

Data Collection and Analysis

Quantitative data: Likert scale responses were given a value (i.e. strongly disagree=1, disagree=2, agree=3, strongly agree=4). The mean average was calculated to determine the rating average for each Likert statement. Standard deviation was calculated for each mean average of the Likert rating scale to determine the data dispersion. The t-test was used to determine if differences were meaningful among middle school and elementary school teachers on rating scales. When analyzing percentages, the chi-square calculation was used to determine significant differences among middle school and elementary school teachers.

In both the chi-square and t-tests the researcher used the critical value $p<.05$. In the following tables, differences will be noted only when $p<.05$ by an asterisk within the table.

Qualitative data: Short answers were evaluated through text analysis, and looked at frequency of words or phrases and commonalities.

Chapter 4

Results

Teacher Profile

The survey was sent to a total of 45 special education teachers, 38 elementary (K-6) and seven middle (7-8). Six of the seven middle school teachers responded and 22 of the elementary level teachers responded (62% return rate). Table 1 shows the data regarding the population teachers serve, experience, education and training.

Table 1

Teacher Profile *Survey Questions # 1-5*	K-6 *(n=22)*	7-8 *(n=6)*
Population of students		
High incidence only	10	3
Low incidence only	1	1
both	11	2
Years teaching special education		
1-3 yrs	1	
4-7 yrs	3	5
8+ yrs	18	1
Educational Background		
BA in Gen. Ed	6	
BA in Spec Ed	4	1
Masters in Elementary Ed	2	
Credits toward Masters in Spec Ed	1	3
Masters in Spec Ed	19	3
Other Masters Degrees	3	
Other education related certifications	2	1
Training in Curriculum Design		
>3 credits in college classes	15	5
PD seminars	15	4
In service provided by district	15	1

Defining Curriculum

Because the research centered on curriculum, it was important to examine how teachers define the term. The survey stated: in a few sentences, define curriculum. Key words were taken directly from the survey and do not reflect the researcher's or the school administrations' definition. See Table 2

Table 2

Defining Curriculum: Key Words
Survey Question #9

Key words	Occurrences	
	K-6 *(n=13)*	7-8 *(n=4)*
assessments	1	
activities	1	
CCS	1	
content/what	**5**	**1**
course of study	3	
materials	**2**	**2**
method/how	3	
objectives	1	
scope	1	1
sequence/order	1	1
total school experience		1

Curriculum Design Training and Confidence

Teachers indicated having training in curriculum design in several areas (See Table 1). The teachers indicated how useful each type of training was for them. Table 3 shows the types of training ranked from 1 (least useful) to 4 (most useful).

Table 3
Curriculum Design Training Rating
Survey Question #6

Type of Training	Mean K-6 (*n=22)*	7-8*(n=6)*
college classes	2.37 σ 1.06	2.67 σ 0.55
professional development	2.75 σ 0 .79	2.17 σ 0.75
in-service programs	2.86 σ 0.71	2.50 σ 1.20
on the job training	**3.55** σ 0.60	**3.40** σ0.55

Note rating scale ranges from 1 (least useful) to 4 (most useful)

Table 4 reflects questions regarding teacher confidence in curriculum design.

Table 4
Confidence in Curriculum Design
Survey Question #21

Survey Statements	Mean K-6 (*n=18)*	7-8 *(n=5)*
I am adept in discerning which materials are appropriate for my students.	**3.56** σ 0.51	**3.40** σ o.55
I am effective at creating systematic programs of instruction.	3.17 σ 0.62	3.20 σ 0.44
I would benefit from additional training in curriculum design.	3.24 σ 0.56	3.00 σ 0.70

Note rating scale ranges from 1 (strongly disagree) to 4 (strongly agree)

Influences in Curriculum Design

Inquires were made about influences in curriculum design. The survey asked teachers to rank their influences in design and modification. Rankings ranged from 1 (not influential) to 4 (very influential). The separate components along with the mean averages are listed in Table 5.

Table 5
Influences in Curriculum Design and Modification
Survey Question #18

Rank your influences when designing or modifying curriculum.	Mean K-6 (*n=19*)	Mean 7-8 (*n=5*)
keeping pace with the general education curriculum	2.79 σ0.85	2.40 σ 1.14
pre-requisite skills to access the general curriculum	3.26 σ0.81	**3.20** σ 0.44
MCAS testing	2.26 σ 0.93	2.60 σ 0.55
IEP goals	**3.58** σ 0.51	**3.20** σ 0.84
basic skills	3.42 σ 0.69	**3.20** σ 0.84
social skills	2.79 σ 0.85	2.80 σ 0.87

Note rating scale ranges from 1 (not influential) to 4 (very influential)

Content Knowledge and Modification

Teachers were asked to self evaluate their knowledge of core content areas in the general curriculum. Responses were given on a rating scale; 1 (below average), 2 (average), 3 (above average), and 4 (excellent).Table 6 shows the results.

Table 6
Self-Rating: Content Knowledge of General Education Survey Question #15

Subject	Mean K-6 (*n=19)*	7-8 (*n=5*)
math	3.05 σ0.70	2.40 σ1.14
reading	**3.22** σ0.73	2.60 σ1.14
language arts	3.05 σ0.85	**3.00** σ1.20
science	2.32 σ0.89	2.40 σ1.30
social studies	2.32 σ0.89	2.40 σ1.40

Note rating scale ranges from 1 (below average) to 4 (excellent)

Special education teachers have the ability to modify across several areas. The survey asked: When using the general education curriculum what do you generally modify? They were given the choices listed in Table 7.

Table 7
Modification Tendencies in General Education Curriculum Question # 16

Area of Modification	K-6 *(n=19)*	7-8 *(n=5)*
delivery of instruction	84.2% (16)	**100% (5)**
content	57.9% (11)	80% (4)
assignments	**89.5% (17)**	**100% (5)**
assessments	**89.5% (17)**	**100% (5)**

As noted in chapter one, special education teachers have been thought of as weak in content knowledge. Consequently, it was important to question what subjects teachers where most often making adjustments to content. Table 8 shows how many teachers specifically modify content by subject area.

Table 8
Subjects Requiring Content Modification
Question #17

Subject	K-6 *(n=18)*	7-8 *(n=5)*
math	55.6% (10)	**100% (5)**
reading/language arts	**61.1% (11)**	60% (3)
science	50% (9)	60% (3)
social studies	55.6% (10)	40% (2)

Supplemental Materials

In order garner information about teacheing materials, teachers were asked if they had suffient materials. They were to indicate their level of agreement by the following range: 1(strongly dissagree), 2 (disagree), 3 (agree), and 4 (strongly agree).

Table 9
Sufficient Materials
Survey Question #21a

Statement	Mean K-6 *(n=18)*	Mean 7-8 *(n=5)*
I have sufficient materials.	2.89 σ0.88	2.20 σ1.30

Note rating scale ranges from 1 (strongly disagree) to 4 (strongly agree)

Information was gathered regarding the need for supplemental materials *not* included in the curriculum. Table 10 expresses the number or percentage of teachers that indicated requiring materials by subject area.

Table 10
Subjects requiring supplemental materials
Question #12

Subject	K-6 *(n=18)*	7-8 *(n=5)*
math	88.9% (16)	**80% (4)**
reading/language arts	**94.4% (17)**	60% (3)
writing	77.8% (14)	**80% (4)**
social studies	66.7% (12)	40% (2)
science	55.6% (10)	**80% (4)**
social skills	44.4% (8)	40% (2)

Because supplemental materials may be required to support learning, the researcher was curious as to where these materials were gathered. Teachers were given several options with the rating scale of 1 (never), 2 (sometimes), 3 (usually), and 4 (always). (See Table 11)

Table 11

Sources for Supplemental Materials
Question #13

Source	Mean K-6 (*n=19)*	7-8 (*n=5)*
professional development seminars	2.26 σ0.45	2.20 σ0.45
in-service training	2.21 σ0.71	1.80 σ0.84
on-line resources	**3.00** σ0.82	**3.20** σ0.45
other teachers	2.74 σ0.65	2.60 σ0.55
workbooks	2.44 σ0.70	2.60 σ0.55
I create my own materials	2.53 σ0.61	3.00 σ0.55
1 teacher comment: outside consultant		

If teachers were most often turning to on-line resources, what resources were they most often using? Table 12 shows all the responses provided including the number of occurrences.

Table 12

Online Resources

Question # 14	K-6(*n=19)*	7-8(*n=3)*
a-z teacher stuff	1	
Brain Pop	1	
edhelper	5	2
freeteach4teachers.com	1	
mathdrills.com	1	1
news to you	1	1
Pro Ed	1	
reading a-z	8	
readwritethink.org	1	
scholastic	1	
smarttech.com	1	
smartboardexchange	1	
sociathinking.com	1	
superteacherworksheets.com	4	1
teacher file box	1	1
teacherspaytechers.com	2	1
worksheetworks.com	1	
writingfix.com	1	

Specialized Programs

Teachers were asked a series of questions reflecting practices in curriculum usage specific to teaching *in special education classroom*. They were asked to indicate their answer via the rating scale: 1 (never), 2 (sometimes), 3 (usually) and 4(always). Table 13 shows their responses.

Table 13
Curriculum usage in the special education classroom
Survey Question #8

When teaching subjects in the special education classroom do you…	Mean K-6 *(n=18)*	Mean 7-8*(n=5)*
modify the general education curriculum	3.06 σ0.64	2.60 σ0.89
create materials to enhance or support the general education curriculum	3.06 σ0.64	2.80 σ0.84
use an alternative curriculum provided by the district	*2.25 σ0.77	*1.40 σ0.55
uses an alternative curriculum **not** provided by the district	2.27 σ0.70	**3.00** σ0.71
use pieces of various programs to create a curriculum	**3.18** σ0.81	2.50 σ0.58

Note rating scale ranges from 1 (never) to 4 (always). *p<.05

Special education teachers are required to create and support specialized programs of studies for students in order to meet their unique needs. The survey inquired what practices teachers where employing when designing this type of distinctive program. Table 14 lays out several statements that are practice based. Teachers were asked to rate their practice by occasion. The scale was as follows: 1 (never), 2 (sometimes), 3 (usually), and 4 (always).

Table 14
Practices in Curriculum Design
Survey Question #11

When designing a specialized program of study do you….	Mean K-6 *(n=17)*	7-8*(n=5*
insure program elements are scientifically based?	2.59 σ0.71	2.60 σ1.30
create a scope and sequence of instruction?	2.88 σ0.86	3.40 σ0.89
monitor progress?	**3.82** σ0.39	**3.80** σ0.44
focus on essential skills?	*3.41 σ0.62	*4.00 σ0
focus on IEP goals?	3.53 σ0.51	3.60 σ0.55
align with Common Core Standards?	3.35 σ0.70	3.60 σ0.55
consult with current grade level teacher?	3.12 σ0.69	2.80 σ0.84
consult with next grade level teacher?	2.06 σ0.82	2.20 σ0.84
request support from the administration?	2.06 σ0.65	1.80 σ0.45

Note rating scale ranges from 1 (never) to 4 (always). *p<.05

Collaboration

Question 21c specifically asked if teachers prefer to work as a team. They were asked to indicate a level of agreement. Table 15 describes the results.

Table 15
Collaboration Preference
Survey Question #21c

Statement	Mean K-6 (*n=18*)	Mean 7-8(*n=5)*
I prefer to work as a team when developing or modifying curriculum.	3.00 σ0.56	3.20 σ0.59

*Not*e rating scale ranges from 1 (strongly disagree) to 4 (strongly agree)

The special education teachers indicated that they collaborated with general education teachers, each other, and other specialists when modifying the general education curriculum for their students. Table 16 shows with whom teachers most often collaborate.

Table 16
Collaboration when modifying general education curriculum
Question #19

Collaborator	K-6 (*n=19)*	7-8 (*n=5)*
general education teacher	**89.5% (17)**	60% (3)
IEP team	15.8% (3)	40% (2)
no one	5.3% (1)	0
other special education teachers	**89.5% (17)**	**100% (5)**
teacher comment: instructional aides		

The survey inquired when special education teachers and other professionals work together. The teachers were given a series of options that are listed in table 17.

Table 17
Collaboration Time
Question #20

Time	K-6 (*n=18)*	7-8 (*n=5)*
on the fly	***27.8% (5)**	***100% (5)**
standing appointment during the day	16.7% (3)	0
after school hours	**27.8% (5)**	0
before school hours	27.8% (5)	0

*p<.05

The survey established that generally elementary and middle school teachers are closely aligned in their practices and approaches to curriculum design. Chapter 5 contains a deeper analysis of the findings in the survey.

Chapter 5

Summary, Conclusions, and Recommendations

Summary

This chapter summarizes and draws conclusions based on the results of the curriculum design survey sent to K-8 special education teachers. The respondents were 22 K-6 special education teachers and 6 special education teachers in grades 7-8. The primary purpose of the study was to gather information about curriculum design practices and what influenced teacher decisions. In order to do so, the researcher designed an on-line survey which included Likert scales, multiple choice and short answer questions. Analyses of the data included the mean, standard deviation, t-test, and chi-square. Based on the t-tests and chi-square, both groups, K-6 and 7-8, were closely aligned in their practices, influences and needs. Only two specific elements were significantly different, which will be addressed in this chapter.

Conclusions

Defining Curriculum

The way teachers define curriculum impacts the methods teachers use to design and modify curriculum (Koga & Hall, 2004). Most teachers offered very limited definitions of curriculum. Only 3 of 17 teachers in the combined groups offered more than three key words. The limited responses indicated that teachers do not have a working definition of curriculum. With an incomplete or partial definition special education teachers may not address curriculum design in its entirety. The most commonly used word was “content.” Teachers agreed that *what*

they teach is critical, but they did not consistently include other elements such as sequence or outcomes.

Education, Experience and Training

Based on their responses, both groups are highly educated, with most holding a Masters degree in Special Education and others with credits toward Masters. Moreover, many teachers indicated holding higher degrees in other areas within education. As mentioned earlier, the surveyed teachers were highly experienced, with only one respondent indicating 1-3 years of experience.

All indicated they had training in curriculum design in several formats. On the job training proved to be the most useful. This finding implies that other areas of training may be lacking in relevance. Programs provided by the district proved to be only somewhat useful. K-6 teachers rated in-service programs at 2.86 which is leaning toward useful while 7-8 teachers rated in-service at 2.50 which is between somewhat useful and useful. This finding indicated that in-service programs may not be targeting special education teachers' needs. Also, the data showed that college classes were only somewhat useful. However, K-6 teachers were not in complete agreement. The data showed 3 of 22 teachers said college classes were most useful while 5 of 22 said they were least useful. Perhaps teacher preparation programs lacked authentic practice for some teachers.

Both sets of teachers indicated confidence in their ability to design appropriate programs of study in that they are able to choose appropriate materials and design systematic instruction However, they did agree that they would benefit from additional training.

Influences in Curriculum Design

Middle School teachers replied that they were balancing equally several influences in curriculum design focused on pre-requisite skills, IEP goals, and basic skills. Elementary school teachers indicated a similar balance, but more weight was given to IEP goals. The survey did not include questions regarding IEP goal writing, which is a limitation of the study. Based on this study, there is no way to determine what influences goal writing; for example, CCS or basic skills. However, it can be implied based on the results that teachers were attending to remediation.

Middle School teachers saw state testing (MCAS) slightly more influential than K-6 teachers did (2.60 vs. 2.26). It can be concluded that MCAS were only moderately influential in shaping curriculum design. Remediation had a greater impact on curriculum design.

Content Knowledge and Modification

Based on the rating scale, K-6 teachers believed they had an above average knowledge of the general education curriculum, specifically in math, reading and language arts; science and social studies were rated average. The implication was that teachers were more focused on specific content areas that they judged as critical.

Among the Middle School teachers, the rating indicated an average knowledge in math, reading, science and social studies; language arts was slightly higher with an above average rating. The data revealed the Middle School special education teachers lacked consensus in their self-rating of knowledge of general education curriculum. A closer look at the data reveals a noteworthy spread. For example, in science, 1 of 5 rated their knowledge as excellent, 2 of 5 above average, and 1 of 5 below average. All other subjects had similar ratings.

Both Elementary and Middle School teachers would benefit from collaboration with their general education peers in order to have a better understanding of content.

As mentioned in Chapter 2, special education teachers have been thought of as having weaknesses in content areas. How does that weakness affect modification? The researcher asked about modifications. The teachers in both groups indicated that content was the least modified area. Teachers were more likely to modify delivery of instruction, assignments, and assessments. It may be reasonable to assume that students in special education are, in fact, exposed to the content within the general education curriculum. However, because special education teachers modify assessments, it cannot be determined if students were making progress within that curriculum.

Although content is the least modified, clearly there are times when content must be addressed. Middle School special education teachers indicated they needed to modify content most often in math. Among K-6 special education teachers, content was modified almost equally among math, reading, science, and social studies. This difference may be an indication of the level of teacher involvement across content areas.

Supplemental Materials

Although teachers said they did not have sufficient materials, the data indicate that there was no consensus (see table 9). Since the survey included special education teachers that worked with low-incidence disabilities the lack of agreement may be based, in part, on those specific teachers' material needs. They would benefit from administrative support in order secure enough teaching materials that mirror the general education curriculum and support CCS.

Supplemental materials were most needed in reading and math in K-6. Middle School teachers' responses were evenly divided among subjects. The need for supplemental materials not provided by the curriculum meant that the curriculum used was not accessible to all learners.

Because teachers may require supplemental materials, it was relevant to ask where materials were gathered. Teachers indicated that they usually went to on-line resources. Resources cited most often were edhelper, Reading a-z, and superteacherworksheets. Only Reading a-z.com has an on-line explanation of its methods. According to its website Reading a-z.com, uses research and recommendations from the National Reading Panel and the federal initiative Put Reading First. The site also uses scientifically based instructional strategies and resources and correlates with CCS and all state standards (www.readinga-z.com).

The researcher contacted superteacherworksheets.com for an explanation of its methods. According to the owner, Tim Weibel, superteacher is a responsive website in that often designs supplemental supports based on teacher requests. Currently, superteacher does not align with CCS, but is planning alignment by the end of the 2012-2013 school year. Additionally, superteacher does not claim to use scientific research (T. Weibel personal communication, November 20, 2012). According to an email exchange with edhelper.com, they too, seek to support teachers by responding to specific requests made by its members. While the website is managed by experienced teachers, they are not scientifically based and do not seek to align with standards (edhelper personal communication, November 27, 2012).

Based on the teacher responses, the administration and/or the technology department should supply a list of websites that provide materials which are scientifically based and align with CCS. Also, teachers should be reminded of websites the school has subscribed to or endorsed.

Specialized Programs

Students in the general education classes are, at a minimum, exposed to the general education curriculum. The survey asked about students in the special education classes for part or all of their instruction. K-6 teachers indicated they usually modify or create supports for the general education curriculum. This is an indication that students, even when in a "pull-out" environment do in fact participate in the general education curriculum. Middle School teachers were less likely to do the same. The Middle School respondents indicated that they usually use curriculum not provided by the district.

Collaboration

All the respondents indicated they prefer to work as a team when modifying curriculum. The K-6 teachers indicated collaborating with both the general education teacher and each other, however, the 7-8 teachers tend to work with each other more than the general education teachers. It is noteworthy that the Middle School teachers reported they collaborate exclusively on the fly. Elementary teachers were evenly spread among on the fly, after school hours and before school hours. Only three K-6 teachers have standing appointments during the day.

Recommendations

The respondents indicated they need supplemental materials to support the general education curriculum across subjects and Middle School teachers usually use alternative curriculums when teaching in the special education classroom. It appears that the current curriculum is not accessible to all learners, therefore all students would benefit from curriculum that was designed using the principles of UDL. Clearly this is an expensive undertaking. In the

meantime, the Middle School curriculum in particular, should be evaluated to discern the existing barriers.

Both K-6 and 7-8 teachers need to have the opportunity to share their material needs so that the administration can better support the teachers. The Administration should publish a list of on-line resources that are aligned with CCS and are scientifically based; furthermore teachers need to be reminded of the web-site subscriptions that are paid for by the districts.

Collaboration time should be scheduled consistently in order for teachers to work together in a meaningful manner to address curriculum supports and modification. Collaboration should be across specialization so that general education teachers can share their mastery of content and special education teachers can share their knowledge of instructional strategies (Brownell, et al., 2010).

Considering respondents said the in-service programs were not useful, the administration should evaluate the needs of the special education teachers so that in-service programs can address the specific needs of special education teachers.

Lastly, with the transition to CCS it should be determined if IEP goals are written against standards or if the goals are remediation based. Teachers would benefit from training in standards based goal writing.

This survey had a few weaknesses. For example, the survey did not ask teachers to express the circumstances under which they would use an alternative curriculum. The survey also did not ask teachers to indicate if IEP goals were standards based.

This study did not seek to determine efficacy in practices. The researcher focused on access and participation in the general education curriculum. Further research on *progress* in the general education curriculum would be suggested. Also, conducting the same survey in an urban and/or rural setting may provide other insights.

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Appendix: Online Survey

Curriculum Design and Modification

1. What grade level do you teach?

- ◯ K-6
- ◯ 7-8

2. What population of students do you teach? (check all that apply)

- ☐ high incidence disabilities (i.e. SLD, AD/HD, behavioral, health)
- ☐ low incidence disabilities (i.e. ASD, cognitive, physical)

Other (please specify)

3. How many years have you taught special education?

- ◯ 1-3 years
- ◯ 4-7
- ◯ 8+

4. What is your educational background? (check all that apply)

- ☐ Bachelor's Degree with a major in General Education
- ☐ Bachelor's Degree with a major in Special Education
- ☐ other Bachelor's Degree
- ☐ some credit toward Special Education Master's Degree
- ☐ Master's Degree in Special Education

Other (please specify)

5. What training have you had in curriculum design? (check all that apply)

- ☐ 1-3 college credits in curriculum design
- ☐ more than 3 college credits in curriculum design
- ☐ professional development seminars
- ☐ in service programs provided by the district
- ☐ on the job training

Other

Page 1

Curriculum Design and Modification

6. Rank your curriculum design training by most useful to least useful

	most useful	useful	somewhat useful	least useful	N/A
college classes	◯	◯	◯	◯	◯
professional development	◯	◯	◯	◯	◯
in-service programs	◯	◯	◯	◯	◯
on the job training	◯	◯	◯	◯	◯

Curriculum Design and Modification

Environment

7. What subjects do you teach in the special education classroom?

- [ ] math
- [ ] reading/language arts
- [ ] science
- [ ] social studies
- [ ] none

Other (please specify)

Curriculum Design and Modification

Curriculum Decisions

8. When teaching subjects in the special education classroom do you...(check all that apply)

	Always	Usually	Sometimes	Never	N/A
modify the general education curriculum?	◯	◯	◯	◯	◯
create materials to enhance or support the general education curriculum?	◯	◯	◯	◯	◯
use an alternative curriculum provided by the district?	◯	◯	◯	◯	◯
use an alternative curriculum NOT provided by the district?	◯	◯	◯	◯	◯
uses pieces of various programs to create a curriculum?	◯	◯	◯	◯	◯
seek input from the IEP team to design a specialized curriculum?	◯	◯	◯	◯	◯

Curriculum Design and Modification

Program Design

9. In a few sentences, define curriculum.

10. Do you use several resources to design a program of study for your students?

◯ yes ◯ no

Curriculum Design and Modification

11. When designing a specialized program of study do you...(check all that apply)

	Always	Usually	Sometimes	Never	N/A
insure program elements are scientifically based?	◯	◯	◯	◯	◯
create a scope and sequence of instruction?	◯	◯	◯	◯	◯
monitor progress?	◯	◯	◯	◯	◯
focus on essential skills?	◯	◯	◯	◯	◯
focus on IEP goals?	◯	◯	◯	◯	◯
align with common core state standards?	◯	◯	◯	◯	◯
consult with the IEP team?	◯	◯	◯	◯	◯
consult current grade level teachers?	◯	◯	◯	◯	◯
consult the next grade level teachers?	◯	◯	◯	◯	◯
request support from administration?	◯	◯	◯	◯	◯

Curriculum Design and Modification

Teaching Materials

12. In what subject areas do your students require supplemental materials NOT provided in the curriculum?
(Check all that apply)

- [ ] math
- [ ] reading
- [ ] writing
- [ ] social studies
- [ ] science
- [ ] social skills

Other (please specify)

13. What resources do you use to find supplemental materials?

	Always	Usually	Sometimes	Never	N/A
professional development seminars	◯	◯	◯	◯	◯
in-service training provided by the district	◯	◯	◯	◯	◯
on-line resources	◯	◯	◯	◯	◯
other teachers	◯	◯	◯	◯	◯
workbooks	◯	◯	◯	◯	◯
I create my own materials	◯	◯	◯	◯	◯

Other (please specify)

14. When using an online resource for instructional materials what is/are your favorite website(s)?

Curriculum Design and Modification

Modification and Adaptations

15. Rate your knowledge of the general education curriculum in the following areas:

	Excellent	Above Average	Average	Below Average
math	◯	◯	◯	◯
reading	◯	◯	◯	◯
language arts	◯	◯	◯	◯
science	◯	◯	◯	◯
social studies	◯	◯	◯	◯

16. When using general education curriculum what do you generally modify? (check all that apply)

☐ delivery of instruction ☐ content ☐ assignments ☐ assessments

Other

Curriculum Design and Modification

Instructional Content

17. What areas require adjustments to content most often? (check all that apply)

- [ ] math
- [ ] reading/language arts
- [ ] science
- [ ] social studies

Curriculum Design and Modification

18. Rank your influences when designing or modifying a curriculum.

	very influential	influential	somewhat influential	not infuential	N/A
keeping pace with the general education curriculum	◯	◯	◯	◯	◯
pre-requisite skills to access the general education curriculum	◯	◯	◯	◯	◯
MCAS testing	◯	◯	◯	◯	◯
IEP goals	◯	◯	◯	◯	◯
basic skills	◯	◯	◯	◯	◯
social skills	◯	◯	◯	◯	◯

19. With whom do you collaborate most often when modifying the general education curriculm?
(check all that apply)

- ☐ the general education teacher
- ☐ the IEP team
- ☐ no one
- ☐ other special education teachers

Other (please specify)

Curriculum Design and Modification

20. When do you collaborate most with other professionals?

- ◯ on the fly
- ◯ standing appointments during the day
- ◯ after school hours
- ◯ before school hours

Curriculum Design and Modification

21. Please rate the following:

	Strongly Agree	Agree	Disagree	Strongly Disagree	N/A
I have sufficient materials.	◯	◯	◯	◯	◯
I am adept at discerning which materials are appropriate for my students.	◯	◯	◯	◯	◯
I prefer to work as a team when developing or modifying curriculum.	◯	◯	◯	◯	◯
I am effective at creating systematic programs of instruction.	◯	◯	◯	◯	◯
I would benefit from addition training in curriculum design.	◯	◯	◯	◯	◯

22. In general do you prefer to...

◯ use a curriculum and make necessary modifications

◯ create a program of study for individual students

◯ use a curriculum AND other resources as enhancement

Comments